CLAIMS

What is claimed is:

1. A system comprising:

a first ring network;

a second ring network; and

a network element coupled to said first ring network and said second ring network, wherein frames from said first ring network and said second ring network are monitored in said network element for conditions indicative of a failure in said first ring network or said second ring network.

2. The system of claim 1 wherein said frames are Synchronous Optical Network (SONET) frames.

3. The system of claim 1 wherein said first ring network and said second ring network are Synchronous Optical Network (SONET) Bidirectional Line Switched Ring (BLSR) networks.

4. A method of supporting a plurality of ring networks in a single network element, said method comprising the acts of:

(a) receiving frames from said plurality of ring networks;

(b) monitoring said frames for a condition indicative of a failure in one of said plurality of ring networks;

(c) detecting a failure in one of said plurality of ring networks;

(d) determining which ring network among said plurality of ring networks is failing; and

(e) rerouting frames of the failing ring network.

5. The method of claim 4 wherein the act of detecting a failure is performed by reading a portion of a frame.

6. The method of claim 5 wherein said portion of a frame is an overhead section of a Synchronous Optical Network (SONET) Synchronous Transport Signal (STS).

7. The method of claim 6 wherein said portion of a frame includes the K-Bytes of a SONET STS.

8. The method of claim 7 wherein the act of rerouting frames is in accordance with the Automatic Protection Switching (APS) protocol.

9. The method of claim 4 wherein said plurality of ring networks are Synchronous Optical Network (SONET) Bidirectional Line Switched Ring (BLSR) networks.

10. A method for supporting multiple ring networks in a single network element comprising the steps of:

step for receiving a frame from a first ring network;

step for receiving a frame from a second ring network;

step for transporting information from the frame of said first ring network to a cross-connect device; and

step for processing said information in the event of a detected failure in said first ring network.

11. The method of claim 10 wherein said step for processing said information is in accordance with the Automatic Protection Switching (APS) protocol.

12. The method of claim 10 wherein said first ring network and said second ring network are Synchronous Optical Network (SONET) Bidirectional Line Switched Ring (BLSR) networks.

13. A computer-readable medium comprising:

computer-readable program code for causing a network element to receive a frame from a first ring network;

computer-readable program code for causing said network element to receive a frame from a second ring network;

computer-readable program code for causing said network element to detect a failure condition in said first ring network;

computer-readable program code for informing a program designated to support said first ring network of said failure condition; and

computer-readable program code for processing said failure condition.

14. The computer-readable medium of claim 13 wherein said first ring network and said second ring network are Synchronous Optical Network (SONET) ring networks.

15. The computer-readable medium of claim 13 wherein said first ring network is a Synchronous Optical Network (SONET) Bidirectional Line Switched Ring (BLSR) network.

16. A network element comprising:

a first line interface coupled to a first ring network;

a second line interface coupled to a second ring network;

a cross-connect device, said cross-connect device including a computer program for monitoring information from said first ring network and said second ring network; and

wherein said computer program monitors said information for conditions indicative of a failure in said first ring network or said second ring network.

17. The network element of claim 16 wherein said first ring network and said second ring network are Synchronous Optical Network (SONET) Bidirectional Line Switched Ring (BLSR) networks.

18. A network element comprising:

means for receiving a frame from a first ring network;

means for receiving a frame from a second ring network; and

means for monitoring information indicative of a failure in said first ring network or said second ring network.

19. The network element of claim 18 wherein said first ring network and said second ring network are Synchronous Optical Network (SONET) Bidirectional Line Switched Ring (BLSR) networks